FEDERAL AID
ANNUAL RESEARCH PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

PROJECT TITLE: Monitoring of Fortymile ungulates and wolves following wolf sterilization and translocation

PRINCIPAL INVESTIGATORS: Rodney D. Boertje, Craig L. Gardner, and Jeff Gross

COOPERATORS: John Burch and Layne Adams (USGS); Rick Farnell, Robert Hayes, and Dorothy Cooley (Yukon Department of Renewable Resources); and Jim Herriges (BLM)

FEDERAL AID GRANT PROGRAM: Wildlife Restoration

GRANT AND SEGMENT NR: W-33-3

PROJECT NR: 3.48

WORK LOCATION: Eastcentral Alaska and adjacent Yukon Territory; portions of Units 12, 20B, 20D, 20E, and 25C

STATE: Alaska

PERIOD: 1 July 2004–30 June 2005

I. PROGRESS ON PROJECT OBJECTIVES SINCE PROJECT INCEPTION

OBJECTIVE 1: Continue a literature review of canid fertility control, responses of caribou, moose, and Dall sheep to reduced predation, ecology and interactions of these predators and prey, nonlethal techniques for reducing predation, and effects of harvest on wolves, caribou, and moose.

Internet searches have been conducted and peer contact maintained to keep informed of new references. This is the second report of a 5-year study.

OBJECTIVE 2: Monitor distribution, numbers, and fates of wolf packs with sterilized wolves using radiotelemetry. We want to know if sterilized wolves accept several wolves into their territories, the relative size of these territories compared with territories of fertile wolves, and the condition and age of sterilized wolves versus fertile wolves.

We have radiotracked several packs approximately monthly and recorded locations and numbers of wolves in the various packs. We have also conducted wolf surveys in the vicinity of wintering caribou.

OBJECTIVE 3: Continue to model Fortymile Caribou Herd production and causes and rate of mortality to evaluate the effects of wolf-caused mortality on herd trend.

We have examined and monitored captured cows and calves to determine pregnancy rates, and calf condition and overwinter mortality and compared them to previous years' data. We are evaluating causes and rates of natural mortality for caribou older than 5 months of age using monthly flights and examination of mortality sites. We have calculated recent mortality rates and compared them to past rates. We have done a composition count on the herd and used it to model the population trend. (See Job 3, Section II.)

OBJECTIVE 4: Document whether a significant increase in moose density occurs in the treatment area versus an adjacent treated area between October 2003 and October 2007.

Moose surveys were flown in the southern portion of the treated area and adjacent untreated areas in November 2004, as in previous years. Surveys were flown to test the effect of reducing wolf numbers on moose. No clear increase in moose numbers or moose calf survival has been noted in the wolf treatment area. Grizzly bears were previously documented as the major predator of moose calves in this area.

OBJECTIVE 5: Document whether significant increases in sheep numbers occur in the treatment area between summer 2003 and summer 2007.

We flew sheep surveys in the treated areas in summer 2004 as in previous years. No clear increase in sheep numbers or lamb survival has been noted in the wolf treatment area.

OBJECTIVE 6: Follow guidelines presented in Part V of the Management Plan to continue to increase public awareness of Fortymile wildlife issues.

Results of the above studies have been presented at local fish and game advisory committee meetings; at Board of Game meetings; and to university and high school classrooms. In addition, we brief the military and post current caribou locations on a Web site to expedite mitigation of overflights.

II. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD

JOB 1: Literature review.

Internet searches were conducted and peer contact was maintained to keep informed of new references.

JOB 2: Collecting and analyzing data on wolves.

We radiotracked about 5 packs monthly and recorded locations and numbers of wolves in the various packs. We also conducted wolf surveys in the vicinity of wintering caribou.

JOB 3: Collecting and analyzing data on caribou.

We examined all radioed cows older than 2 years of age during May 2005 to determine if cows were pregnant; 30 (77%) of 39 cows were pregnant. The 20-year average pregnancy rate is 87% for the Fortymile herd. We collared and weighed 16 calves in late September 2004 to evaluate summer growing conditions and winter mortality rates. No calves died from capture-related causes. Calves averaged 54 kg, similar to the mean of 55 kg observed since 1990. No calves were collared in May 2005 because only 5 sterilized wolf packs remained. A calf mortality study was proposed after wolves fully recover in the treated area, but an aerial wolf control program by private citizens is now controlling wolf numbers in 2 or 3 of the 15 packs that were sterilized. Nine annual calf mortality studies were conducted from May 1994 through May 2002.

We also evaluated causes and rates of natural mortality for caribou older than 5 months of age during this reporting period using monthly flights and examination of mortality sites. We used a helicopter for transportation to these sites, and derived mortality rates using Kaplan–Meier techniques. The mortality rate of radioed yearling and adult females from 15 May 2004 to 14 May 2005 was 14%, the highest since 1992. The highest overwinter calf mortality (50% of 16 calves) was also documented this reporting period. Wolf predation was the single most important cause of mortality as in all previous years.

On 28 September 2004 we counted the proportion of calves, cows and bulls among 4157 caribou. These caribou were distributed in proportion spatially to 52 independent radio collars. Calf:cow ratios were among the lowest since 1991. These data, together with data on low overwinter survival, suggests that herd numbers decreased from May 2004 to May 2005. Conditions were not suitable for a photocensus in June 2005 because the herd scattered into low-lying forested areas during rainy, cool weather that began on 19 June. However, based on modeling of empirical data and elevated calf mortality, herd numbers declined slightly since the last count of 43,375 caribou photographed on 30 June 2003. Modeling data indicated a total of 39,700 caribou in mid May 2005.

JOB 4: Collecting and analyzing data on moose

In November 2004, moose surveys were conducted in the southern portion of the treatment area and nearby untreated areas to test the effect of reducing wolf numbers on moose. No clear increase in moose numbers or calf survival was noted in the wolf treatment area.

JOB 5: Collecting and analyzing data on sheep

We flew sheep surveys in the treated areas in summer 2004. No clear increase in sheep numbers or lamb survival was noted in the wolf treatment area.

JOB 6: Public involvement, report writing

Results of the above studies were presented at local fish and game advisory committee meetings in Fairbanks, Central, Delta, Eagle, and Tok; at Board of Game meetings; and to university and high school classrooms. In addition, we participated in briefings with the

military and continued to post current caribou locations on a Web site to expedite mitigation of overflights during May and June 2005.

III. ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD

We flew about 10 additional telemetry flights to monitor caribou distribution and movements during June, August, and September using funds from Tok caribou survey and inventory sources. Specifically, these flights provided precensus and harvest monitoring data, as well as mortality data. The caribou census, caribou composition count, moose surveys, some wolf surveys, and sheep surveys were also funded using Tok survey and inventory funds.

IV. PUBLICATIONS

No articles were published during this reporting period.

V. RECOMMENDATIONS FOR THIS PROJECT

No recommendations at this time.

VI. APPENDIX

None.

VII. PROJECT COSTS FOR THIS SEGMENT PERIOD

Stewardship Investment items purchased:

None during this reporting period.

FEDERAL AID SHARE $29.0 + STATE SHARE $9.7 = TOTAL $38.7

VIII. PREPARED BY:

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SUBMITTED BY:

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